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Fagatele Bay National Marine Sanctuary

Staff from the sanctuary was in Ta'u, Manu'a to participate in a week of planned activities to commemorate Arbor week, which coincided with the opening of the green house at Manu'a High School. Staff from the American Samoa Community College's Land-Grant together with representatives of the Le Tausagi (local environment educators) were present. The week featured presentations, clean-ups, tree planting and a wonderful display of art during the greenhouse opening. Presentations were conducted for 78 students from levels 6 to 8 in both Fitiuta and Faleasao elementaries. The high school students were introduced to the sanctuary programs with the focus on Fagatele Bay's coral reefs and the connection to the trees, and the impacts and threats to our reefs when we cut down the trees.

Florida Keys National Marine Sanctuary

The week of November 15, 2004, the sanctuary hosted a group of VIPs that included officials from the Navy, Army and Air Force, as well as Dan Basta, Director of the National Marine Sanctuary Director, and Jon Day, Director of the Conservation, Biodiversity and World Heritage of the Great Barrier Reef Marine Park Authority. The theme of the trip was managing Marine Protected Areas in the Keys and Tortugas. Weather caused cancellation of an overnight trip to the Tortugas, but other activities were substituted and the group made it to the Tortugas for one day.

Flower Garden Banks National Marine Sanctuary

The sanctuary teamed up with NURC-UNCW, and United Space Alliance (USA)/ NASA to conduct remotely operated vehicle (ROV) surveys and SCUBA operations in the NW Gulf of Mexico, on board the USA Ship *Liberty Star* - one of two ships contracted by NASA and used to recover the rocket boosters after a shuttle launch. This unique collaboration resulted in 14 ROV surveys, during which 56 sponges were collected between 175' and 300' depths. Images and identification of these sponges will contribute to the development of regional catalogs. NASA, NURC, and sanctuary SCUBA divers conducted a total of 64 dives to depths of 130' - tasks included removal of invasive orange cup coral, algae collections, and photo documentation.

Gray's Reef National Marine Sanctuary

The sanctuary partnered with Massachusetts Institute of Technology and University of Massachusetts in a proposal to study vocalizations of spawning fish aggregations in Gray's Reef and Stellwagen Bank national marine sanctuaries. Should the grant be awarded, the information gained from this project will help researchers understand what fish are spawning and where they are aggregating within each of the sanctuaries. This information will add another dimension to the characterization of the sanctuaries and enable managers to make better informed decisions in protecting their resources. The proposal has been submitted to the National Oceanographic Partnership Project (NOPP), a collaboration of 15 federal agencies that provides leadership and coordination of national oceanographic research and education programs, which is expected to notify recipients of the awards in mid-December. This proposal is a spin-off from the Sanctuary Sounds education mini-grant that was awarded to Gray's Reef sanctuary in 2003. The NMSP education mini-grant is an internal granting program that awards education innovation that develops cooperation among marine sanctuaries, broadens successful education programs and links

education to research, exploration or other cross-cutting issues within NOAA.

Sanctuary-funded researchers from Georgia Southern University (GSU) have been conducting an investigation on the invertebrates of Gray's Reef National Marine Sanctuary to develop an online identification guide. When GSU researchers couldn't fully identify several species of soft-bodied organisms known as tunicates (commonly called "sea squirts"), they turned to a Russian tunicate expert. Out of dozens of samples from the sanctuary, the expert identified three tunicates as being previously unknown species. More samples will have to be collected so that the tunicates can be fully described and named. The story was captured by the Savannah Morning News, Connect Savannah, WSAV-TV, CNN, USA Today and The Washington Post.

Gulf of the Farallones National Marine Sanctuary

On November 1, the sanctuary and PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans) scientists successfully deployed the first of four thermistors that will be placed in the Gulf of the Farallones to record long-term data on sea temperatures, internal waves and depth throughout the water column. The thermocline is a depth where temperature changes rapidly, separating cooler, abyssal water from the warmer surface water. The depth of the thermocline is known to affect sea surface temperature, which plays a major role in the life history of sanctuary marine life.

On November 10, KTVU/Channel 2 (Fox) ran a 4 1/2 minute feature focusing on the sanctuary's increased biological productivity due to strengthening of a coldwater cycle known as Pacific decadal oscillation. The story also covered upwelling dynamics, the recent thermistor deployment at the Farallones and a sharp increase in seabird numbers. Several members of the sanctuary staff were interviewed for this feature.

September through mid-November, 312 students from San Francisco Bay area high schools participated in the sanctuary's Sandy Beach Monitoring Project, monitoring eight beaches and contributing 1,441 hours. They captured and recorded size, reproductive status and infestation by thorny-headed worms (*Acanthocephalus*) for which these crabs are intermediate hosts. Forty to fifty percent of mortalities among the threatened California sea otter are caused by infectious disease, most prevalent being *acanthocephalus*-related peritonitis. In 1995 the worms caused a die-off of several thousand surf scoters, a coastal seabird.

Monterey Bay National Marine Sanctuary

On November 9, 2004, the sanctuary held an open house for the sanctuary advisory council members and other guests on the Channel Islands sanctuary's R/V *Shearwater* while she was docked in Monterey Harbor. The goal of the event was to showcase the type of research boat the central coast sanctuaries will be receiving in 2006. A brief presentation was given by Congressman Sam Farr. The Monterey Herald and Santa Cruz Sentinel newspapers and KSBW-TV covered the event and ran brief stories.

Stellwagen Bank National Marine Sanctuary

On November 19, staff from the sanctuary provided keynote talks at the annual Student Ocean Summit at the New England Aquarium. The summit addressed issues

of marine mammal protection and management in the sanctuary, and used the sanctuary's on-going management plan review to guide the discussions. Stakeholders and sanctuary staff worked with students from 10 eastern Massachusetts schools to develop sample action plans.

National Marine Sanctuary Program

In an effort to showcase their current and future exhibit and visitor center projects in California, the National Marine Sanctuary Program (NMSP) hosted NOAA's Office of Legislative Affairs (Debra Larson and Luke Nachbar), DOC's Budget Office (John Webb), and two staffers from Congressman Sam Farr's D.C office from Nov. 8-10, 2004, on a visit to 6 locations. The facility site visits included briefings by the managers at all four sanctuaries and the City of Santa Cruz, a tour of Monterey Bay Aquarium, and a dinner with Bob Talbot, National Marine Sanctuary Foundation board member and world-renowned marine photographer.

The NMSP and the Office of Naval Research sponsored a symposium on the Hunt for the *Alligator*, the first US Navy Submarine. The symposium was hosted by Nauticus, The Maritime Center, in Norfolk, VA. The NMSP Director and the Chief of Naval Research welcomed the historians, archaeologists, civil war re-enactors, educators, engineers, and oceanographers from industry, academia, Navy, and NOAA. The symposium will be followed by the development of a 10-year plan that will define surveys of opportunity so that researchers can test instruments in the *Alligator* search area; determine what to do when the *Alligator* is found; and describe steps needed to enhance educational and outreach programs that will build on the excitement for and the mystery of this forgotten civil war history to interest kids in science and literature.

NMSP staff prepared and conducted two presentations (MPA Funding and MPA Capacity Building) for an MPA Workshop in Seoul (Ansan), Korea from November 2-4, 2004. This workshop continued upon previous efforts to coordinate with the Korea Ministry of Maritime Affairs and Fisheries on establishing an MPA network in Korea. In mid-November, a Junior Scientist, from the Ocean Research Team, National Fisheries Research and Development Institute came to the NMSP and Channel Islands NMS for a 2-month internship.

On October 26, staff from the NMSP and the National Ocean Service's International Program Office attended a roundtable on the Galapagos National Park and Marine Reserve. The roundtable was hosted by the Inter-American Development Bank. The Minister of the Environment for Ecuador provided an analysis of recent events concerning the Galapagos and an overview of recent initiatives by the Government of Ecuador to strengthen the management of the Galapagos National Park and Marine Reserve. The NMSP has recently initiated discussions with the Galapagos Marine Reserve on building a long-term partnership.

The NMSP continues the status review of Caribbean *Acropora*; the two Caribbean species and a hybrid (common names: elkhorn, staghorn and fused staghorn) listed as candidate species under the Endangered Species Act. NOAA Fisheries has been petitioned to consider a listing determination and designation of critical habitat.

The NMSP education mission is to enhance public awareness, understanding and

appreciation of the marine environment. With that in mind the latest version of Sanctuary Watch profiles the NMSP education program. In addition, a new education website has been launched at <http://sanctuaries.noaa.gov/education>. Take a tour of image galleries or explore the section for teachers, which include curriculum, online activities, professional development opportunities, high tech learning, multicultural programs and much more. You can also take a virtual dive in a submersible, download puzzles, read online storybooks and engage in digital labs just for fun.

On November 18, 2004, NOAA received the Advisory Council on Historic Preservation (ACHP) Chairman's Award for Federal Achievement in Historic Preservation for its exemplary response to the Bush Administration's Preserve America initiative. NOAA's Preserve America Web site and its brochure, "NOAA and the Preserve America Initiative" exemplify and further NOAA's dedication to preserve heritage resources in its care and make them accessible to the public through innovative programs and partnerships. The Chairman's Award was presented at the ACHP fall business meeting at the University of Virginia, in Charlottesville, Virginia.

NOAA's Maritime Heritage Program has been assisting the National Park Service in its current work on the USS *Arizona* at Pearl Harbor. Maritime archaeologists are conducting ultrasonic hull thickness tests, sampling metal and corrosion products, carrying out a photomosaic survey, and using a Videoray ROV to collect data from the wreck's interior. Updates for the ongoing USS *Arizona* Preservation Project can be found at <http://www.pastfoundation.org/Arizona/index.htm>.